

REMARKS

Claims 1-20 are pending in the application.

Claims 1-3, 5, 10-12, 15 and 18 have been amended.

Reconsideration and allowance of claims 1-20, as amended, is respectfully requested for the reasons set out below.

In paragraph 2 of the Office Action, the Examiner objected to claims 3 and 5 because of certain informalities.

These informalities have been corrected by the above amendment. Applicant therefore respectfully requests that the objection to claims 3 and 5 be withdrawn.

In paragraph 3 of the Office Action, the Examiner rejected claims 2, 5, 7, 9, 11-13 and 15-17 under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter in which the applicant regards as the invention.

The indefiniteness noted by the examiner has been corrected by the above amendment. Applicant therefore respectfully requests that the rejection of claims 2, 5, 7, 9, 11-13 and 15-17 as indefinite be withdrawn.

In paragraph 4 of the Office Action, claims 1-3, 8-12, and 15-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by Taketoshi et al (U.S. Patent No. 5,389, 898).

The applicant's invention provides a PLL that has (1) a feedback path with multiple divider values and (2) a variable frequency oscillator (a VCO) that has a variable gain profile. For example, claim 1 recites:

(1) "a feedback loop including a frequency divider that has several divider values, said PLL operating over a frequency range that includes a number of

frequency sub-ranges, the center frequency of each sub-range being determined by said divider value" and
(2) a " VFO having a variable gain profile, the gain profile of said VFO being controlled by gain control logic which sets the gain profile of said VFO so that the gain of the VFO remains within a desired range as the operation of said PLL moves between said frequency sub-ranges"

The Taketoshi reference shows three different embodiments. In the first and second embodiments shown in Taketoshi, the circuit has three voltage controlled oscillators, each of which have a different frequency. The third embodiment shown in Taketoshi (see Taketoshi Figure 8) there is a single VCO that includes a number of inverters connected in a loop. The length of the loop in the VCO can be shortened or lengthened by a selection control circuit.

In the circuit shown in Taketoshi, there is a feedback loop with a divider; however, the divider in Taketoshi's feedback loop has a single divider value. This contrasts with the divider shown in applicant's circuit where the divider has a plurality of values, thereby establishing several frequency sub-ranges. In applicant's circuit, the gain of the VCO is changed as the divider value in the feedback circuit is changes. This is not taught or suggested in the Taketoshi reference.

Each of the other independent claims in applicants application distinguish from Taketoshi for the same reason as explained above relative to claim 1. Applicant's dependent claims distinguish from Taketoshi based on the limitations in the parent claims on which they are dependent.

Therefore reconsideration and withdrawal of the rejection based on Taketoshi is respectfully requested.

In paragraph 5 of the office action, the Examiner rejected claims 1-3, 10-12, 15-16 and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Martin et al. (U.S. Patent No. 5,686,864).

As explained above, the applicant's invention utilizes a single VFO that has a variable gain profile.

The Martin reference utilizes an array of VCO circuits. At column 3 lines 14-16, the Martin reference states:

"Using the array of VCO circuits described by the invention, eliminates the need for a single VCO with a large tuning voltage range"

Thus, Martin teaches using an array of VCO as contrasted to the use of a single VFO with a variable gain profile as claimed by the applicant.

Since the Martin reference specifically teaches away from the combination claimed by the applicant, reconsideration and withdrawal of the rejection based on anticipation by Martin is respectfully requested.

In paragraph 6 of the Office Action, the Examiner rejected claims 4-9, 13-14 and 17 under 35 U.S.C. § 103(a) as being unpatentable over USS patent 5,389,898 issued to Taketoshi.

Claims 4-9, 13-14 and 17 are dependent claims. These claims distinguish over Taketoshi for the reasons explained above relative to the parent claims. That is, each of applicant's claims recites a combination that includes:

- (1) a feedback loop including a frequency divider that has several divider values, thereby establishing a number of frequency sub-ranges, and
- (2) a VFO having a variable gain profile, the gain of the VFO remaining within a desired range as the operation of said PLL moves between said frequency sub-ranges.

In the circuit shown in Taketoshi, there is a feedback loop with a divider; however, the divider in Taketoshi's feedback loop has a single divider value. This contrasts with the divider shown in applicant's circuit where the divider has a plurality of values, thereby establishing several frequency sub-ranges. In applicant's circuit, the gain of the VCO is changed as the divider value in the feedback circuit is changes. This is not taught or suggested in the Taketoshi reference.

For the above reason, applicant respectfully requests reconsideration and withdrawal of the rejection of claims 4-9, 13-14 and 17 based upon the Taketoshi reference.

In paragraph 7 of the Office Action, the Examiner rejected claims 4-9, 13-14 and 17 under 35 U.S.C. § 103(a) as being unpatentable over US patent 5,686,864 issued to Martin.

Claims 4-9, 13-14 and 17 are dependent claims. These claims distinguish over Martin for the reasons explained above relative to the parent claims. That is, Martin teaches using an array of VCO as contrasted to the use of a single VFO with a variable gain profile as claimed by the applicant. Martin specifically states that Martin's circuit "eliminates the need for a single VCO with a large tuning voltage range". Thus, Martin's teaching directs one away from applicant's invention.

Conclusion: The references do not teach or suggest applicant's invention. Therefore reconsideration and allowance of claims 1-20 as amended is respectfully requested.

Respectfully submitted,

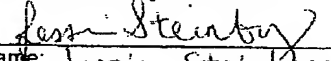
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